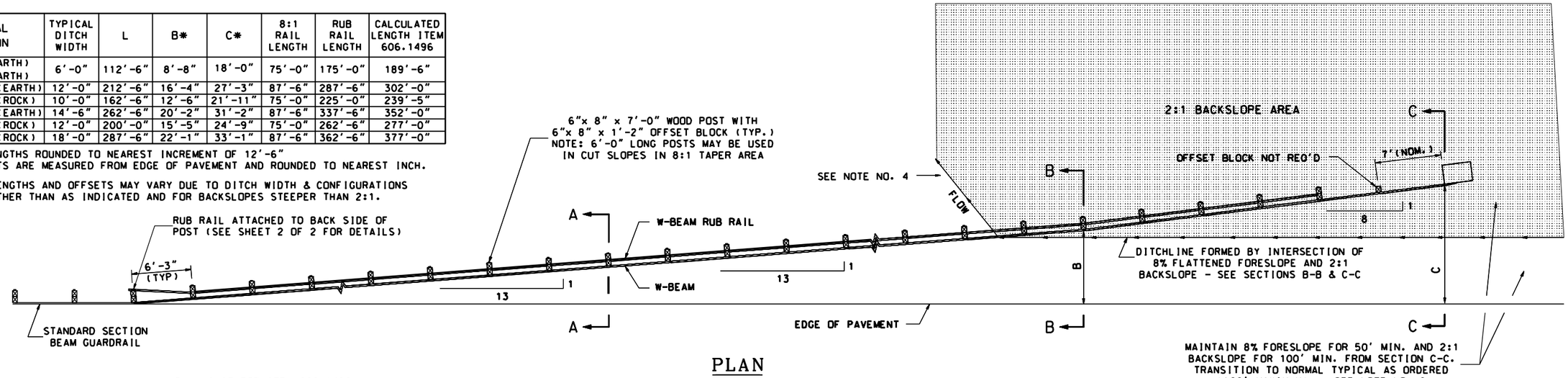
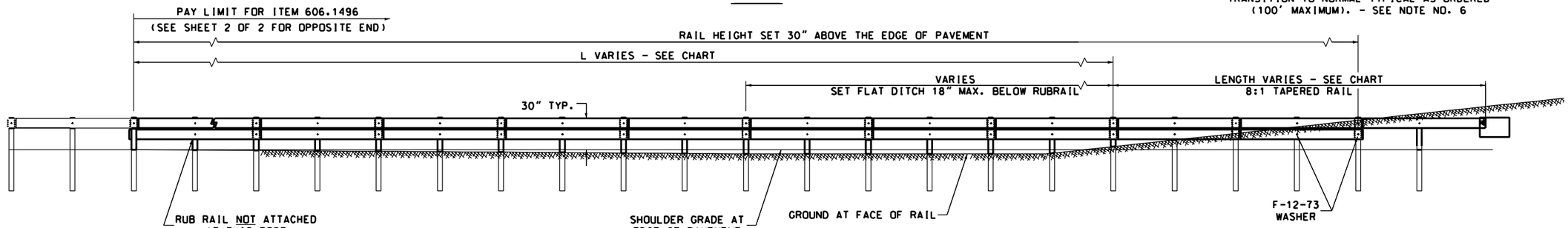
TYPICAL SECTION	TYPICAL DITCH WIDTH	L	B*	C*	8:1 RAIL LENGTH	RUB RAIL LENGTH	CALCULATED LENGTH ITEM 606.1496
11-4-4 (EARTH) 12-4-4 (EARTH)	6'-0"	112'-6"	8'-8"	18'-0"	75'-0"	175'-0"	189'-6"
12-10-10 (EARTH)	12'-0"	212'-6"	16'-4"	27'-3"	87'-6"	287'-6"	302'-0"
12-10-10 (ROCK)	10'-0"	162'-6"	12'-6"	21'-11"	75'-0"	225'-0"	239'-5"
12-10-12 (EARTH)	14'-6"	262'-6"	20'-2"	31'-2"	87'-6"	337'-6"	352'-0"
12-10-12 (ROCK)	12'-0"	200'-0"	15'-5"	24'-9"	75'-0"	262'-6"	277'-0"
12-10-12 (ROCK)	18'-0"	287'-6"	22'-1"	33'-1"	87'-6"	362'-6"	377'-0"

RAIL LENGTHS ROUNDED TO NEAREST INCREMENT OF 12'-6"
* OFFSETS ARE MEASURED FROM EDGE OF PAVEMENT AND ROUNDED TO NEAREST INCH.

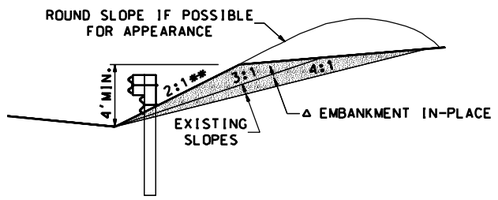
NOTE: LENGTHS AND OFFSETS MAY VARY DUE TO DITCH WIDTH & CONFIGURATIONS OTHER THAN AS INDICATED AND FOR BACKSLOPES STEEPER THAN 2:1.



PLAN



ELEVATION



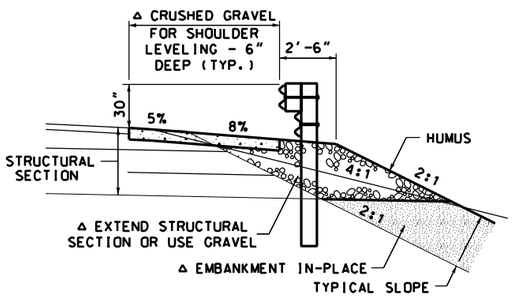
SLOPE STEEPENING DETAIL
(WHERE REQUIRED)

TERMINAL SECTION TYPE E-2

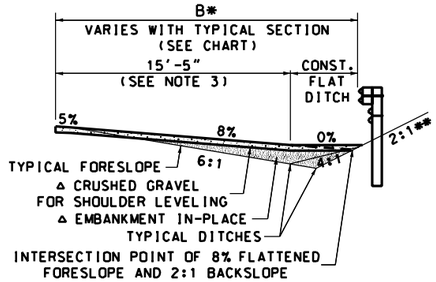
ITEM NO. 606.1496 - BEAM GUARDRAIL TERMINAL SECTION, TYPE E-2

PAID: LINEAR FOOT (INCLUDES RUB RAIL AND ANCHOR)

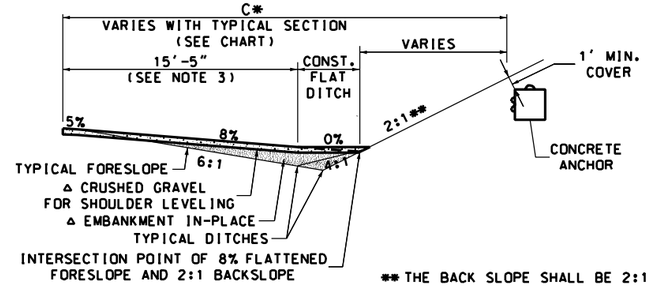
USE: AT BEGINNING OR END OF STANDARD SECTION GUARDRAIL



SECTION A-A



SECTION B-B



SECTION C-C

** THE BACK SLOPE SHALL BE 2:1 OR STEEPER APPROACHING THE ANCHOR. IT IS NOT THE INTENT TO FLATTEN AN EXISTING BACKSLOPE THAT IS STEEPER THAN 2:1 UNLESS SO NOTED ON THE PLANS OR PROPOSAL.

△ SEE NOTE 6 FOR ALL HATCHED AREAS

NOT TO SCALE

GENERAL NOTES

1. THIS TERMINAL IS DESIGNED FOR USE PRIMARILY AT SITES WHERE THE TERRAIN CHANGES ABRUPTLY FROM A CUT TO A STEEP FILL. AND WHERE THEORETICAL LENGTH OF NEED WOULD EXTEND INTO THE CUT SECTION FOR A CONSIDERABLE DISTANCE. THIS TERMINAL IS PRIMARILY FOR TYPICALS REFLECTING NEW CONSTRUCTION AND FOR SPEEDS OF 50 MPH OR GREATER. FOR LOWER SPEEDS SEE THE DETAIL FOR BEAM GUARDRAIL TERMINAL SECTION TYPE E-2 MODIFIED.
2. SEE SHEET 2 OF 2 FOR E-2 HARDWARE DETAILS. SEE STANDARDS NO. GR-1 OR GR-2 FOR ADDITIONAL DETAILS OF COMMON HARDWARE.
3. A RUB RAIL IS REQUIRED WHEN THE BOTTOM OF THE W-BEAM IS GREATER THAN 18" HIGH ABOVE THE GROUND. A MAXIMUM OFFSET FROM THE E.P. OF 15'-5" MAINTAINS A SINGLE RUB RAIL HEIGHT. FOR ANY PORTION OF A DITCH OFFSET GREATER THAN 15'-5" CONSTRUCT A FLAT BOTTOMED DITCH TO THE 2:1 BACK SLOPE.
4. CONSTRUCT OUTLET DITCH TO FIT SITE CONDITIONS OR USE DROP INLET AND PIPE IF LARGE FLOWS ARE ANTICIPATED OR IF DITCHLINE BECOMES FLATTER THAN 0.4% (PAY UNDER BID ITEMS).
5. FOR INSTALLATIONS IN ROCK CUT EARTH BERMS, EXCAVATE A SUFFICIENT QUANTITY OF ROCK TO PERMIT POST DRIVING, AND ANCHOR THE TERMINAL BY ONE OF THE FOLLOWING METHODS:
   A) EXCAVATE ROCK TO PERMIT INSTALLATION OF PRECAST ANCHOR
   B) CONSTRUCT CAST-IN-PLACE ANCHOR WITH SAME MASS AS PRECAST ANCHOR AND 4 S.F. CROSS-SECTIONAL AREA TO FACE OF ANCHOR (SUBSIDIARY TO ITEM 606.1496).
   C) ATTACH W-BEAM TERMINAL CONNECTOR DIRECTLY TO ROCK FACE BY AN APPROVED ROCK BOLT METHOD (SUBSIDIARY TO ITEM 606.1496).
6. ANY COMMON EXCAVATION, EMBANKMENT IN-PLACE, AND CRUSHED GRAVEL FOR SHOULDER LEVELING REQUIRED WILL BE PAID UNDER ITEM 203.5596 - GUARDRAIL E-2 PLATFORMS. ROCK EXCAVATION WILL BE PAID AS ITEM 206.2 - ROCK STRUCTURE EXCAVATION.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

BEAM GUARDRAIL
TERMINAL SECTION TYPE E-2

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
3-1-06	GR-E2			